

**REMARKS**

A review of the claims indicates that:

A) Claims 2—12, 14—19, 21—33 and 35 remain in their original form.

B) Claims 1, 13, 20 and 34 are currently amended.

In view of the following remarks, Applicant respectfully requests reconsideration of the rejected claims.

**35 U.S.C. §112**

The Examiner pointed out that claim 13 should depend from claim 7. This change has been made.

**35 U.S.C. §102 Rejections**

Applicant submits that the Office has failed to establish a *prima facie* case of anticipation and respectfully traverses the Office's rejections. However, before discussing the substance of the Office's rejections, a section entitled "The §102 Standard" is provided and will be used in addressing the Office's rejections.

**The §102 Standard**

According to the MPEP §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim.

Anticipation is a legal term of art. The applicant notes that in order to provide a valid finding of anticipation, several conditions must be met: (i) the

1 reference must include every element of the claim within the four corners of the  
2 reference (see MPEP §2121); (ii) the elements must be set forth as they are recited  
3 in the claim (see MPEP §2131); (iii) the teachings of the reference cannot be  
4 modified (see MPEP §706.02, stating that "No question of obviousness is present"  
5 in conjunction with anticipation); and (iv) the reference must enable the invention  
6 as recited in the claim (see MPEP §2121.01). Additionally, (v) these conditions  
7 must be simultaneously satisfied.

8 The §102 rejection of claims 1—5, 7—10, 14—18, 34 and 35 is  
9 believed to be in error. Specifically, the PTO and Federal Circuit provide  
10 that §102 anticipation requires that each and every element of the claimed  
11 invention be disclosed in a single prior art reference. *In re Spada*,  
12 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). The corollary of this rule  
13 is that the absence from a cited §102 reference of any claimed element  
14 negates the anticipation. *Kloster Speedsteel AB, et al. v. Crucible, Inc., et*  
15 *al.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).

16 The applicant notes the requirements of MPEP §2131, which states  
17 "to anticipate a claim, the reference must teach every element of the claim."  
18 This MPEP section further states that "'A claim is anticipated only if each  
19 and every element as set forth in the claim is found, either expressly or  
20 inherently described, in a single prior art reference.' *Verdegaal Bros. v.*  
21 *Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053  
22 (Fed. Cir. 1987). 'The identical invention must be shown in as complete  
23 detail as is contained in the ... claim.' *Richardson v. Suzuki Motor Co.*, 868  
24 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements  
25

1 must be arranged as required by the claim, but this is not an *ipse dixit* test,  
2 i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831,  
3 15 USPQ2d 1566 (Fed. Cir. 1990)."

#### 4 5 **The Ohno Reference**

6 The Ohno reference detects binary numbers (see 1 in FIG. 1) using a  
7 detector 2. The output of the detector is organized in a shift register 3, and then  
8 compared to data in ROM 7, which reveals if the detected data is transformable  
9 into an absolute position (see column 5, lines 34—43). Using a combination of  
10 absolute positions and relative positions (see column 6, lines 19—25) Ohno is able  
11 to establish position.

12 Ohno distinguishes absolute and relative positions in the ROM 7 (see  
13 column 5, lines 40—43). A low signal (L) from the ROM on output line 6-4  
14 indicates that the detector did not detect data transformable to an absolute position.  
15 Alternatively, if the data is transformable into an absolute position, then a high  
16 signal (H) is output to the output line 6-4 (see column 6, lines 2—7).

17 Thus, Ohno **outputs a single signal**, wherein the single signal may be high  
18 or low in response to data, which represents an absolute position or a relative  
19 position, respectively.

#### 20 21 **Traversal of the §102 Rejections**

22 Claims 1—5, 7—10, 14—18, 34 and 35 were rejected under §102 as being  
23 anticipated by U.S. Patent No. 5,565,864, hereinafter "Ohno." In response, the  
24 Applicant respectfully traverses the rejection.  
25

1           **Claim 1** recites, as amended, an encoding system for determining position  
2 and position changes of a moving member, comprising:

- 3           • a sequence of encoder marks forming incremental patterns and at least  
4           one index pattern, wherein two subsequent incremental patterns are  
5           indicative of an incremental position-change of the moving member  
6           and the index pattern is indicative of a reference position of the moving  
7           member;  
8           • a sensor arrangement viewing a section of the encoder-mark sequence,  
9           the length of which is greater than one position-change increment; and  
10          • an analyzer arranged to analyze an encoder-mark pattern in the viewed  
11          section with regard to the incremental patterns and the index pattern and  
12          to generate, in response to a pattern match found, **an incremental-**  
13          **position-change signal** and **an index signal**.  
14

15           The Applicant notes that the Ohno reference does not disclose (1) an  
16 incremental-position-change signal, and also, (2) an index signal. Instead, Ohno  
17 discloses a single signal, wherein H (high voltage) indicates data associated with  
18 an absolute position and wherein L (low) indicates data associated with a relative  
19 position.  
20

21           The Patent Office suggests Ohno discloses the aspects recited. The  
22 Applicant respectfully disagrees.  
23

24           Ohno discloses only a single signal line at 6-4, which reflects the output of  
25 ROM 7. The output of the signal 6-4 reflects absolute vs. relative.

          In contrast, the Applicant recites two signal lines: an incremental-position-  
change signal and the index signal. These signals provide information on aspects  
of index and incremental patterns, which are observed by the sensor.

          The Applicant's two signals allow more information to be conveyed than is  
possible with the single signal line disclosed by Ohno (at line 6-4 from ROM 7).  
For example, where one signal line is provided (e.g. Ohno) only two states can be

1 communicated (e.g. H and L) corresponding to absolute and relative. But in the  
2 Applicant's recited structure, four states can be conveyed. For example, referring  
3 to Fig. 8 (of the Replacement Sheets) we can see that the Incremental Signal can  
4 be either 0 or 1, and also the Index Signal can be either 0 or 1. Thus, between the  
5 two signals, all combinations (e.g. 00, 01, 10, 11) are possible. (See also  
6 Applicant's specification, page 17, line 28 to page 18, line 8.)

7 Thus, the Applicant's recited incremental-position-change signal and index  
8 signal are structurally different from the single signal line 6-4 disclosed by Ohno,  
9 and provide a functional advantage not seen by Ohno.

10 Thus, the Applicant respectfully asserts that Ohno does not disclose the  
11 elements recited, and that the §102 rejection of Claim 1 is therefore improper.  
12 Accordingly, the Applicant respectfully requests that the §102 rejection of Claim 1  
13 be removed, and that Claim 1 be allowed to issue, as amended.

14 **Claims 2—6** depend from Claim 1 and are allowable due to their  
15 dependence from an allowable base claim. These claims are also allowable for  
16 their own recited features that, in combination with those recited in Claim 1, are  
17 neither disclosed nor suggested in references of record, either singly or in  
18 combination with one another.

19  
20 **Claim 7** recites an encoding system for determining position and position  
21 changes of a moving member, comprising comprising:

- 22 • a row of encoder marks arranged along the moving member in a  
23 generally regular manner to provide incremental position-change  
24 information;
- 25 • at least one index marking in the form of a predefined pattern of  
encoder marks which represents a disturbance of the regular encoder-  
mark arrangement;
- a sensor arrangement viewing a section of the row of encoder marks  
and arranged to provide a viewed pattern of the encoder-mark section;

- 1       • an analyzer arranged to analyze the viewed pattern to generate  
2       **incremental-position-change signals** on the basis of the encoder marks  
3       and an index signal in response to a detection of the predefined index  
4       mark pattern;
- 5       • wherein the incremental-position-change signals are enabled to be  
6       generated also in that section of the encoder-mark row in which the  
7       regular en-coder-mark arrangement is disturbed by the index marking.

8       The Applicant notes that the Ohno reference does not disclose (1) an  
9       incremental-position-change signal, and also, (2) an index signal. Instead, Ohno  
10      discloses a single signal, wherein H (high voltage) indicates data associated with  
11      an absolute position and wherein L (low) indicates data associated with a relative  
12      position.

13      The Patent Office suggests Ohno discloses the aspects recited. The  
14      Applicant respectfully disagrees.

15      Ohno discloses only a single signal line at 6-4, which reflects the output of  
16      ROM 7. The output of the signal 6-4 reflects absolute vs. relative.

17      In contrast, the Applicant recites two signal lines: an incremental-position-  
18      change signal and the index signal. These signals provide information on aspects  
19      of index and incremental patterns, which are observed by the sensor.

20      The Applicant's two signals allow more information to be conveyed than is  
21      possible with the single signal line disclosed by Ohno (at line 6-4 from ROM 7).  
22      For example, where one signal line is provided (e.g. Ohno) only two states can be  
23      communicated (e.g. H and L) corresponding to absolute and relative. But in the  
24      Applicant's recited structure, four states can be conveyed. For example, referring  
25      to Fig. 8 (of the Replacement Sheets) we can see that the Incremental Signal can  
26      be either 0 or 1, and also the Index Signal can be either 0 or 1. Thus, between the

1 two signals, all combinations (e.g. 00, 01, 10, 11) are possible. (See also  
2 Applicant's specification, page 17, line 28 to page 18, line 8.)

3 Thus, the Applicant's recited incremental-position-change signal and index  
4 signal are structurally different from the single signal line 6-4 disclosed by Ohno,  
5 and provide a functional advantage not seen by Ohno.

6 Thus, the Applicant respectfully asserts that Ohno does not disclose the  
7 elements recited, and that the §102 rejection of Claim 7 is therefore improper.  
8 Accordingly, the Applicant respectfully requests that the §102 rejection of Claim 7  
9 be removed, and that Claim 7 be allowed to issue, as amended.

10 **Claims 8—13** depend from Claim 7 and are allowable due to their  
11 dependence from an allowable base claim. These claims are also allowable for  
12 their own recited features that, in combination with those recited in Claim 7, are  
13 neither disclosed nor suggested in references of record, either singly or in  
14 combination with one another.

15  
16 **Claim 14** recites An encoding system for determining position and position  
17 changes of a moving member, comprising comprising:

- 18 • a row of identical encoder marks forming incremental patterns and at  
19 least one index pattern, wherein two subsequent incremental patterns  
20 are indicative of an incremental position-change of the moving member  
21 and the index pattern is indicative of a reference position of the moving  
22 member;
- 23 • a sensor arrangement detecting a pattern of a section of the encoder-  
24 mark row; and
- 25 • an analyzer arranged to analyze the detected encoder-mark pattern with  
regard to the incremental patterns and the index pattern and to generate,  
in response to an incremental-pattern match found, **an incremental-  
position-change signal** and, in response to an index-pattern match  
found, **an index signal**.

1       The Applicant notes that the Ohno reference does not disclose (1) an  
2 incremental-position-change signal, and also, (2) an index signal. Instead, Ohno  
3 discloses a single signal, wherein H (high voltage) indicates data associated with  
4 an absolute position and wherein L (low) indicates data associated with a relative  
5 position.

6       The Patent Office suggests Ohno discloses the aspects recited. The  
7 Applicant respectfully disagrees.

8       Ohno discloses only a single signal line at 6-4, which reflects the output of  
9 ROM 7. The output of the signal 6-4 reflects absolute vs. relative.

10       In contrast, the Applicant recites two signal lines: an incremental-position-  
11 change signal and the index signal. These signals provide information on aspects  
12 of index and incremental patterns, which are observed by the sensor.

13       The Applicant's two signals allow more information to be conveyed than is  
14 possible with the single signal line disclosed by Ohno (at line 6-4 from ROM 7).  
15 For example, where one signal line is provided (e.g. Ohno) only two states can be  
16 communicated (e.g. H and L) corresponding to absolute and relative. But in the  
17 Applicant's recited structure, four states can be conveyed. For example, referring  
18 to Fig. 8 (of the Replacement Sheets) we can see that the Incremental Signal can  
19 be either 0 or 1, and also the Index Signal can be either 0 or 1. Thus, between the  
20 two signals, all combinations (e.g. 00, 01, 10, 11) are possible. (See also  
21 Applicant's specification, page 17, line 28 to page 18, line 8.)

22       Thus, the Applicant's recited incremental-position-change signal and index  
23 signal are structurally different from the single signal line 6-4 disclosed by Ohno,  
24 and provide a functional advantage not seen by Ohno.  
25



1        Thus, the Applicant respectfully asserts that Ohno does not disclose the  
2 elements recited, and that the §102 rejection of Claim 14 is therefore improper.  
3 Accordingly, the Applicant respectfully requests that the §102 rejection of Claim  
4 14 be removed, and that Claim 14 be allowed to issue, as amended.

5        **Claims 15—19** depend from Claim 14 and are allowable due to their  
6 dependence from an allowable base claim. These claims are also allowable for  
7 their own recited features that, in combination with those recited in Claim 14, are  
8 neither disclosed nor suggested in references of record, either singly or in  
9 combination with one another.

10        **Claim 34** recites a method of determining position and position  
11 changes of a moving member using a sequence of encoder marks which  
12 forms incremental pat-terns and at least one index pattern, wherein two  
13 subsequent incremental patterns are indicative of an incremental position-  
change of the moving member and the index pattern is indicative of a  
reference position of the moving member, comprising the steps:

- 14        • viewing a section of the encoder-mark sequence, the length of which is  
greater than one position-change increment;
- 15        • analyzing a encoder-mark pattern in the viewed section with regard to  
16 the incremental patterns and the index pattern; and
- 17        • generating, in response to a pattern match found, **an incremental-  
position-change signal and an index signal.**

18  
19        The Applicant notes that the Ohno reference does not disclose (1) an  
20 incremental-position-change signal, and also, (2) an index signal. Instead, Ohno  
21 discloses a single signal, wherein H (high voltage) indicates data associated with  
22 an absolute position and wherein L (low) indicates data associated with a relative  
23 position.  
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1       The Patent Office suggests Ohno discloses the aspects recited. The  
2 Applicant respectfully disagrees.

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4 ROM 7. The output of the signal 6-4 reflects absolute vs. relative.

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6 change signal and the index signal. These signals provide information on aspects  
7 of index and incremental patterns, which are observed by the sensor.

8       The Applicant's two signals allow more information to be conveyed than is  
9 possible with the single signal line disclosed by Ohno (at line 6-4 from ROM 7).  
10 For example, where one signal line is provided (e.g. Ohno) only two states can be  
11 communicated (e.g. H and L) corresponding to absolute and relative. But in the  
12 Applicant's recited structure, four states can be conveyed. For example, referring  
13 to Fig. 8 (of the Replacement Sheets) we can see that the Incremental Signal can  
14 be either 0 or 1, and also the Index Signal can be either 0 or 1. Thus, between the  
15 two signals, all combinations (e.g. 00, 01, 10, 11) are possible. (See also  
16 Applicant's specification, page 17, line 28 to page 18, line 8.)

17       Thus, the Applicant's recited incremental-position-change signal and index  
18 signal are structurally different from the single signal line 6-4 disclosed by Ohno,  
19 and provide a functional advantage not seen by Ohno.

20       Thus, the Applicant respectfully asserts that Ohno does not disclose the  
21 elements recited, and that the §102 rejection of Claim 34 is therefore improper.  
22 Accordingly, the Applicant respectfully requests that the §102 rejection of Claim  
23 34 be removed, and that Claim 34 be allowed to issue, as amended.  
24  
25

1       **Claim 35** recites a method of determining position and position  
2 changes of a moving member using a row of encoder marks arranged along  
3 the moving member in a generally regular manner to provide incremental  
4 position-change information; at least one index marking in the form of a  
5 predefined pattern of encoder marks which represents a disturbance of the  
6 regular encoder-mark arrangement, comprising the steps:

- 7       • viewing a section of the row of encoder marks;
- 8       • providing a viewed pattern of the encoder-mark section;
- 9       • analyzing the viewed pattern to **generate incremental-position-**  
10 **change signals** providing the incremental position-change information  
11 on the basis of the encoder marks and **an index signal** in response to a  
12 detection of the pre-defined index mark pattern; and
- 13       • wherein the incremental-position-change signals are enabled to be  
14 generated also in that section of the encoder-mark row in which the  
15 regular encoder-mark arrangement is disturbed by the index marking.

16       The Applicant notes that the Ohno reference does not disclose (1) an  
17 incremental-position-change signal, and also, (2) an index signal. Instead, Ohno  
18 discloses a single signal, wherein H (high voltage) indicates data associated with  
19 an absolute position and wherein L (low) indicates data associated with a relative  
20 position.

21       The Patent Office suggests Ohno discloses the aspects recited. The  
22 Applicant respectfully disagrees.

23       Ohno discloses only a single signal line at 6-4, which reflects the output of  
24 ROM 7. The output of the signal 6-4 reflects absolute vs. relative.

25       In contrast, the Applicant recites two signal lines: an incremental-position-  
change signal and the index signal. These signals provide information on aspects  
of index and incremental patterns, which are observed by the sensor.

      The Applicant's two signals allow more information to be conveyed than is  
possible with the single signal line disclosed by Ohno (at line 6-4 from ROM 7).  
For example, where one signal line is provided (e.g. Ohno) only two states can be

1 communicated (e.g. H and L) corresponding to absolute and relative. But in the  
2 Applicant's recited structure, four states can be conveyed. For example, referring  
3 to Fig. 8 (of the Replacement Sheets) we can see that the Incremental Signal can  
4 be either 0 or 1, and also the Index Signal can be either 0 or 1. Thus, between the  
5 two signals, all combinations (e.g. 00, 01, 10, 11) are possible. (See also  
6 Applicant's specification, page 17, line 28 to page 18, line 8.)

7 Thus, the Applicant's recited incremental-position-change signal and index  
8 signal are structurally different from the single signal line 6-4 disclosed by Ohno,  
9 and provide a functional advantage not seen by Ohno.

10 Thus, the Applicant respectfully asserts that Ohno does not disclose the  
11 elements recited, and that the §102 rejection of Claim 35 is therefore improper.  
12 Accordingly, the Applicant respectfully requests that the §102 rejection of Claim  
13 35 be removed, and that Claim 35 be allowed to issue, as amended.

### 14 **The §103 Rejections**

15 The Applicant submits that the Office has failed to establish a *prima facie*  
16 case of obviousness and, in view of the comments below, respectfully traverses the  
17 Office's rejections. However, before discussing the substance of the Office's  
18 rejections, a section entitled "The §103 Standard" is provided and will be used in  
19 addressing the Office's rejections.  
20

### 21 **The §103 Standard**

22 To establish a *prima facie* case of obviousness, three basic criteria *must* be  
23 met. MPEP § 2142. First, there must be some suggestion or motivation, either in  
24 the references themselves or in the knowledge generally available to one of  
25

1 ordinary skill in the art, to modify the reference or to combine reference teachings.  
2 *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, 837 F.2d  
3 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Second, there must be a reasonable  
4 expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375  
5 (Fed. Cir. 1986). Finally, the prior art reference (or references when combined)  
6 must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180  
7 USPQ 580 (CCPA 1974).

8 Hence, when patentability turns on the question of obviousness, the search  
9 for, and analysis of, the prior art includes evidence relevant to the finding of  
10 whether there is a teaching, motivation, or suggestion to select and combine or  
11 modify the references relied on as evidence of obviousness. The need for  
12 specificity pervades this authority. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371,  
13 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to  
14 the reason the skilled artisan, with no knowledge of the claimed invention, would  
15 have selected these components for combination in the manner claimed").

#### 16 **Traversal of the §103 Rejections**

17  
18 Claims 6, 11—13 and 19 stand rejected under 35 U.S.C. §103(a) as being  
19 obvious over Ohno. In response, the Applicant respectfully traverses the rejection.

20 **Claims 6, 11—13 and 19** depend from Claims 1, 7 and 14 and are  
21 allowable due to their dependence from an allowable base claim. These claims are  
22 also allowable for their own recited features that, in combination with those  
23 recited in Claim 14, are neither disclosed nor suggested in references of record,  
24 either singly or in combination with one another.  
25

1       **Claims 20—33** stand rejected under 35 U.S.C. §103(a) as being obvious  
2 over Ohno in view of US patent 6,155,669, hereinafter “Donahue.” In response,  
3 the Applicant respectfully traverses the rejection.

4  
5       **Claim 20** recites a printing device having an encoding system for  
6 determining position and position changes of a recording medium conveyor  
7 to determine the position of a recording medium placed on the conveyor,  
8 comprising:

- 9       • a sequence of encoder marks forming incremental patterns and at least  
10 one index pattern, wherein two subsequent incremental patterns are  
11 indicative of an incremental position-change of the conveyor and the  
12 index pattern is indicative of a reference position of the conveyor;
- 13       • a sensor arrangement viewing a section of the encoder-mark sequence,  
14 the length of which is greater than one position-change increment; and
- 15       • an analyzer arranged to analyze an encoder-mark pattern in the viewed  
16 section with regard to the incremental patterns and the index pattern and  
17 to generate, in response to a pattern match found, **an incremental-**  
18 **position-change signal** and **an index signal**.

19       The Applicant notes that Donahue was not cited for its disclosure, teachings  
20 or suggestion of an incremental-position-change signal and an index signal.  
21 Additionally, a search of the specification and drawings of Donahue does not  
22 reveal disclosure, teaching or suggestion of either of the two aforementioned  
23 signals. Accordingly, Donahue fails to remedy the failings of Ohno, who, it has  
24 been shown, does not disclose, teach or suggest the creation of, or use of, an  
25 incremental-position-change signal *and* an index signal.

26       The Patent Office has cited Donahue for its disclosure of a page width  
27 printer with plural print stations for the respective colors where each print station  
28 includes its own code reader. The Patent Office has not cited Donahue as  
29 disclosing, teaching or suggesting an incremental-position-change signal and an  
30 index signal.

1 Without addressing the validity of the reason that the Patent Office cited the  
2 Donahue reference, the Applicant notes that Donahue fails to disclose, teach or  
3 suggest (1) an incremental-position-change signal; and (2) an index signal.  
4 Having failed to do so, Donahue fails to remedy the failings of Ohno.

5 Accordingly, the Applicant respectfully requests that the §103(a) rejection  
6 of Claim 20 be removed, and that Claim 20 be allowed to issue.

7 **Claims 21—24** depend from Claim 20 and are allowable due to their  
8 dependence from an allowable base claim. These claims are also allowable for  
9 their own recited features that, in combination with those recited in Claim 20, are  
10 neither disclosed nor suggested in references of record, either singly or in  
11 combination with one another.

12 **Claim 25** recites a printing device having an encoding system for  
13 determining position and position changes of a recording medium conveyor  
14 to determine the position of a recording medium placed on the conveyor,  
comprising:

- 15 • a row of encoder marks arranged along the conveyor in a generally  
regular manner to provide incremental position-change information;
  - 16 • at least one index marking in the form of a predefined pattern of encoder  
marks which represents a disturbance of the regular encoder-mark  
17 arrangement;
  - 18 • a sensor arrangement viewing a section of the row of encoder marks and  
arranged to provide a viewed pattern of the encoder-mark section;
  - 19 • an analyzer arranged to analyze the viewed pattern to generate  
**incremental-position-change signals** on the basis of the encoder marks  
20 and an index signal in response to a detection of the predefined index  
mark pattern,
  - 21 • wherein the incremental-position-change signals are enabled to be  
22 generated also in that section of the encoder-mark row in which the  
regular en-coder-mark arrangement is disturbed by the index marking.
- 23  
24  
25

1       The Applicant notes that Donahue was not cited for its disclosure, teachings  
2 or suggestion of an incremental-position-change signal and an index signal.  
3 Additionally, a search of the specification and drawings of Donahue does not  
4 reveal disclosure, teaching or suggestion of either of the two aforementioned  
5 signals. Accordingly, Donahue fails to remedy the failings of Ohno, who, it has  
6 been shown, does not disclose, teach or suggest the creation of, or use of, an  
7 incremental-position-change signal *and* an index signal.

8       The Patent Office has cited Donahue for its disclosure of a page width  
9 printer with plural print stations for the respective colors where each print station  
10 includes its own code reader. The Patent Office has not cited Donahue as  
11 disclosing, teaching or suggesting an incremental-position-change signal and an  
12 index signal.

13       Without addressing the validity of the reason that the Patent Office cited the  
14 Donahue reference, the Applicant notes that Donahue fails to disclose, teach or  
15 suggest (1) an incremental-position-change signal; and (2) an index signal.  
16 Having failed to do so, Donahue fails to remedy the failings of Ohno.

17       Accordingly, the Applicant respectfully requests that the §103(a) rejection  
18 of Claim 25 be removed, and that Claim 25 be allowed to issue.

19       **Claims 26—28** depend from Claim 25 and are allowable due to their  
20 dependence from an allowable base claim. These claims are also allowable for  
21 their own recited features that, in combination with those recited in Claim 25, are  
22 neither disclosed nor suggested in references of record, either singly or in  
23 combination with one another.  
24  
25



1           **Claim 29** recites a printing device having an encoding system for  
2 determining position and position changes of a recording medium conveyor  
3 to determine the position of a recording medium placed on the conveyor,  
4 comprising:

- 5       • a row of identical encoder marks forming incremental patterns and at  
6       least one index pattern, wherein two subsequent incremental patterns are  
7       indicative of an incremental position-change of the conveyor and the  
8       index pattern is indicative of a reference position of the conveyor;
- 9       • a sensor arrangement detecting a pattern of a section of the encoder-  
10      mark row; and
- 11      • an analyzer arranged to analyze the detected encoder-mark pattern with  
12      regard to the incremental patterns and the index pattern and to generate,  
13      in response to an incremental-pattern match found, **an incremental-**  
14      **position-change signal** and, in response to an index-pattern match  
15      found, **an index signal**.

16           The Applicant notes that Donahue was not cited for its disclosure, teachings  
17 or suggestion of an incremental-position-change signal and an index signal.  
18 Additionally, a search of the specification and drawings of Donahue does not  
19 reveal disclosure, teaching or suggestion of either of the two aforementioned  
20 signals. Accordingly, Donahue fails to remedy the failings of Ohno, who, it has  
21 been shown, does not disclose, teach or suggest the creation of, or use of, an  
22 incremental-position-change signal *and* an index signal.

23           The Patent Office has cited Donahue for its disclosure of a page width  
24 printer with plural print stations for the respective colors where each print station  
25 includes its own code reader. The Patent Office has not cited Donahue as  
disclosing, teaching or suggesting an incremental-position-change signal and an  
index signal.

Without addressing the validity of the reason that the Patent Office cited the  
Donahue reference, the Applicant notes that Donahue fails to disclose, teach or

1 suggest (1) an incremental-position-change signal; and (2) an index signal.  
2 Having failed to do so, Donahue fails to remedy the failings of Ohno.

3 Accordingly, the Applicant respectfully requests that the §103(a) rejection  
4 of Claim 29 be removed, and that Claim 29 be allowed to issue.

5 **Claims 30—33** depend from Claim 29 and are allowable due to their  
6 dependence from an allowable base claim. These claims are also allowable for  
7 their own recited features that, in combination with those recited in Claim 29, are  
8 neither disclosed nor suggested in references of record, either singly or in  
9 combination with one another.

10 **Conclusion**

11 The Applicant submits that all of the claims are in condition for allowance  
12 and respectfully requests that a Notice of Allowability be issued. If the Office's  
13 next anticipated action is not the issuance of a Notice of Allowability, the  
14 Applicant respectfully requests that the undersigned attorney be contacted for the  
15 purpose of scheduling an interview.

16  
17 Respectfully Submitted,

18  
19 Dated: 12-02-2005

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